

CLAIMS

1. A part on or in a cooking, roasting, baking, or grilling device with a self-cleaning coating which enables remnants of foodstuffs to be removed without mechanical action, characterized in that the coating has a structure comprised of (a) porous particles A, and (b) a binder, wherein the porous particles A do not have a solid or liquid secondary phase in their pores (a).
2. The part according to claim 1, characterized in that the porous particles A are thermally stable and chemically stable, porous metal oxides, carbides, or nitrides.
3. The part according to claim 1 or claim 2, characterized in that the porous particles A are SiO₂, TiO₂, Al₂O₃, ZrO₂, SiC, Si₃N₄, C, and B₂O₃, preferably γ -Al₂O₃ and SiO₂.
4. The part according to any of the preceding claims, characterized in that the size of the particles A (particle diameter) is 5 to 100 μ m, in particular 10 to 80 μ m, 20 to 60 μ m, or 30 to 50 μ m.
5. The part according to any of the preceding claims, characterized in that the pores a of the particles A are open-cell.
6. The part according to any of the preceding claims, characterized in that the binder is inorganic and permanently temperature resistant up to 500 °C, in particular an inorganic polymer such as a silicone resin or an inorganic sol, both on the basis of Al₂O₃, SiO₂, TiO₂, ZrO₂, SiC, Si₃N₄, or B₂O₃ or mixtures of at least two of these, an open-cell or dense glass, a polymeric phosphate, a silicate, a clay, or water glass.
7. The part according to any of the preceding claims, characterized in that the binder particles have a diameter of 0.5 to 10 μ m, in particular 1 to 5 μ m.
8. The part according to any of the preceding claims, characterized in that the coating in addition comprises other kinds of particles, in particular particles that serve the reduction of the roughness of the coating, the improvement of the

binding between the particles A on one hand, and between coating and substrate on the other hand, the adjustment of the color, or the improvement of the thermal decomposition, the haptics, or the spreading ability.

9. The part according to any of the preceding claims, characterized in that the other kinds of particles are nanoscale particles (particles B'), particles in the micrometer range (particles B), pigment particles, metals, in particular transition metals, metal oxides, in particular of transition metals.
10. The part according to any of the preceding claims, characterized in that the particles B and B' are thermally and chemically stable, in particular metal oxides, carbides, and nitrides such as SiO₂, TiO₂, Al₂O₃, ZrO₂, SiC, Si₃N₄, and B₂O₃.
11. The part according to any of the preceding claims, characterized in that the part is a baking oven muffle.
12. A cooking, roasting, baking, and grilling device, in particular an oven or stove that exhibits a part according to any of the claims 1 to 11.